AMENDMENTS TO THE CLAIMS

1-23. (Canceled)

24. (Currently Amended) A protection system for first and second ~~interconnected~~ communication networks interconnected by an Automatic Switched Transport Network (ASTN) having an ASTN control plane, ~~each network having a primary terminal configured to communicatively interconnect the networks over a primary communication circuit~~ the first network including a first primary terminal node configured to interconnect to a second primary terminal node of the second network over a primary communication circuit, the system comprising:

a first secondary terminal node associated with the first primary terminal node in the first network~~, and configured to establish a secondary communication circuit with the primary terminal in the second network responsive to a failure of the primary terminal in the first network~~;

a second secondary terminal node associated with the second primary terminal node in the second network~~, the second node configured to establish a secondary communication circuit with the primary terminal in the first network responsive to a failure of the primary terminal in the second network~~; ~~and~~

~~wherein the first and second networks are interconnected by a transport network having an Automatic Switched Transport Network (ASTN) control plane, and wherein the primary terminals and the first and second nodes are connected by the transport network~~

the first and second secondary terminal nodes configured to establish a secondary communication circuit to interconnect the first and second secondary terminal nodes responsive to a failed interconnection between the first and second primary terminal nodes;

the ASTN control plane configured to implement signaling and automatic polling mechanisms to switch traffic from the first and second primary terminal nodes to the first and second secondary terminal nodes responsive to the failed interconnection between the first and second primary terminal nodes; and

wherein the criteria for switching the traffic to the secondary communication circuit are based on alarm monitoring on a client side of the ASTN network.

25. (Previously Presented) The system of claim 24 wherein at least one of the first and second networks comprises an automatic control plane (ACP), and wherein the other of the first and second networks is protected by one of an automatic switching mechanism and a control plane mechanism.

26. (Currently Amended) The system of claim 24 wherein the first primary terminal node and the first secondary terminal node in the first network comprise source nodes, and wherein the second primary terminal node and the second secondary terminal node in the second network comprise destination nodes.

27. (Currently Amended) The system of claim 24 wherein the first primary terminal node and the first secondary terminal node in the first network comprise destination nodes, and wherein the second primary terminal node and the second secondary terminal node in the second network comprise source nodes.

28. (Currently Amended) The system of claim 24 wherein, during normal operation, the first and second primary ~~terminals~~ terminal nodes in the first and second networks, respectively, communicate over the primary communication circuit and use an on-the-fly circuit restoration mechanism.

29. (Currently Amended) The system of claim 28 wherein the first primary terminal node in the first network comprises a primary origin node, and wherein the second primary terminal node in the second network comprises a primary destination node.

30. (Previously Presented) The system of claim 29 wherein the primary origin node comprises a controller node, and wherein the primary destination node comprises a cooperator node.

31. (Previously Presented) The system of claim 30 wherein the primary destination node is configured to detect a failure of the primary origin node responsive to detecting a failed synchronization attempt with the primary origin node.

32. (Currently Amended) The system of claim 31 wherein the primary destination node is further configured to establish the secondary communication circuit with the first secondary terminal node in the first network responsive to detecting the failed synchronization attempt with the primary origin node.

33. (Previously Presented) The system of claim 30 wherein the primary origin node is configured to detect a failure of the of the primary destination node responsive to detecting a failed synchronization attempt with the primary destination node.

34. (Currently Amended) The system of claim 33 wherein the primary origin node is further configured to establish the secondary communication circuit with the second secondary terminal node in the second network responsive to detecting the failed synchronization attempt with the primary destination node.

35. (Currently Amended) The system of claim 27 wherein the primary origin node comprises a controller node configured to calculate a circuit routing to the second secondary terminal node, and signal the second secondary terminal node to establish the secondary communication circuit.

36. (Currently Amended) The system of claim 24 wherein each of the first and second secondary terminal nodes is configured to detect a failure of its respective associated primary terminal node using a heartbeat protocol communicated with its respective associated primary terminal node.

37. (Currently Amended) The system of claim 36 wherein at least one of the first and second secondary terminal nodes is configured to establish a reset circuit with the other of the first and second secondary terminal nodes responsive to a failure of both the first and second primary ~~terminals~~ terminal nodes.

38. (Cancelled).

39. (Previously Presented) The system of claim 24 wherein at least one of the first and second networks comprises a network based on a TMN ITU-T M. 3010 management architecture.

40. (Previously Presented) The system of claim 24 wherein at least one of the first and second networks comprises a MS-SPRing network.

41. (Currently Amended) The system of claim 40 wherein the first network comprises the MS-SPRing network, and wherein path information for the MS-SPRing network is configured according to one or more protection diagrams that indicate a communication path between the first primary terminal node in the MS-SPRing network and the first secondary terminal node.

42. (Currently Amended) The system of claim 41 wherein the MS-SPRing network is configured to switch client traffic to the first secondary terminal node responsive to a failure of the first primary terminal node in the MS-SPRing network.

43. (Currently Amended) The system of claim 42 wherein the second primary terminal node in the second network is configured to send a first restoration message to the first primary terminal node in the MS-SPRing network to the start an on-the-fly ASTN restoration scheme.

44. (Currently Amended) The system of claim 43 wherein, if the first primary terminal node in the MS-SPRing network fails to answer the first restoration message, the second primary terminal node in the second network is configured to send a second restoration message to the first secondary terminal node to the start the on-the-fly ASTN restoration scheme.

45. (Previously Presented) The system of claim 24 wherein at least one of the first and second networks comprises a SNCP network.

46. (Previously Presented) The system of claim 45 wherein the first network comprises a virtual ring SNCP network.

47. (Currently Amended) The system of claim 46 wherein if the first primary terminal node in the virtual ring SNCP network detects a failure at a client input, the first primary terminal node in the virtual ring SNCP network is configured to indicate the failure to the first secondary terminal node.

48. (Currently Amended) The system of claim 47 wherein the second primary terminal node in the second network begins an ASTN traffic restoration procedure to the second secondary terminal node responsive to detecting the failure of the first primary terminal node in the virtual ring SNCP network.

49. (Currently Amended) The system of claim 47 wherein the first primary terminal node in the virtual ring SNCP network is configured to begin an on-the-fly restoration procedure responsive to a failure at the second primary terminal node in the second network.

50. (Currently Amended) The system of claim 47 wherein the second primary terminal node in the second network is configured to begin an on-the-fly restoration procedure responsive to a failure at the first primary terminal node in the virtual ring SNCP network.

51. (Previously Presented) The system of claim 24 wherein the first network comprises an SNCP network having a dual ring interconnection protection scheme.

52. (Currently Amended) The system of claim 51 wherein if both of the first and second primary ~~terminals~~ terminal nodes detect a failure, the first primary terminal node in the SNCP network indicates the failure to the first secondary terminal node, and switches an ASTN protection group to the first secondary terminal node to establish the second communication circuit.

53. (Currently Amended) The system of claim 51 wherein if both of the first and second primary ~~terminals~~ terminal nodes detect a failure, the second primary terminal node in the second network indicates the failure to the second secondary terminal node, and switches an ASTN protection group to the first secondary terminal node to establish the second communication circuit.

54. (Currently Amended) The system of claim 51 wherein the first secondary terminal node is configured to detect a failure of the first primary terminal node in the in the SNCP network, and control an ASTN protection group to restore a connection with the second primary terminal node in the second network.

55. (Currently Amended) The system of claim 51 wherein the first secondary terminal node is configured to detect a failure of the first primary terminal node in the in the SNCP network, and control an ASTN protection group to restore a connection with the second secondary terminal node.

56. (Currently Amended) The system of claim 51 wherein an ASTN protection group switches to the first secondary terminal node in the SNCP network to establish a communication circuit between the first and second secondary terminal nodes.

57. (Currently Amended) The system of claim 51 wherein an ASTN protection group switches to the second secondary terminal node in the second network to establish a communication circuit between the first and second secondary terminal nodes.

58. (New) A method for protecting communications between first and second communication networks interconnected by an Automatic Switched Transport Network (ASTN) having an ASTN control plane, the first network including a first primary terminal node configured to interconnect to a second primary terminal node of the second network over a primary communication circuit, and a first secondary terminal node associated with the first primary terminal node configured to communicatively interconnect to a second secondary terminal node associated with the second primary terminal node in the second network, the method comprising:

detecting a failure of the interconnection between the first and second primary terminal nodes;

establishing a secondary communication circuit to interconnect the first and second secondary terminal nodes;

the ASTN control plane configured to implement signaling and automatic polling mechanisms to switch communications from the first and second primary terminal nodes to the first and second secondary terminal nodes responsive to detecting the failed interconnection between the first and second primary terminal nodes; and

wherein the criteria for switching the traffic to the secondary communication circuit are based on alarm monitoring on the client side of the ASTN network.